

L 65217-65 FED/ENT(1) GW/MS-1

ACCESSION NR: AP5022806

LR/0141/65/008/004/0822/0824

Khizhnyakova, I. P.

55

53

The problem of the distribution of ionized gas near the galactic plane

Radiofizika, v. 8, no. 4, 1965, 800-804

ABSTRACT: galactic plane, cosmic radio emission, polarized radiation, electric interstellar space

In the only published paper, the distribution of ionized gas near the galactic plane is assumed to be uniform. It is shown that this assumption is incorrect. The distribution of ionized gas near the galactic plane is determined by the intensity of the cosmic radio emission. The density of ionized gas in that layer amounts to  $10^{-2}$  cm<sup>-3</sup>. The temperature is  $10^4$  K. The half thickness of the layer is  $10^3$  pc. It is shown that this assumption is incorrect. The distribution of ionized gas near the galactic plane is determined by the intensity of the cosmic radio emission. The density of ionized gas in that layer amounts to  $10^{-2}$  cm<sup>-3</sup>. The temperature is  $10^4$  K. The half thickness of the layer is  $10^3$  pc.

The radiation is distributed nonuniformly in a belt which is 50 deg wide and passes through the poles of the Galaxy. A systematic decrease of the intensity of the radiation does not occur from the middle to the border, and the electric

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vector in several places is located along the belt. Two models of the Galaxy are discussed in the original article. The first model assumes a uniform distribution of the ionized gas in the spiral arms, and the second model assumes a concentration of ionized gas in dense clouds. Astronomical investigations do not confirm the possibility of either the first or the second model. A combination of both models, allowing a cloudy structure of ionized gas and the Faraday rotation in interstellar space, may prove the existence of cosmic radiation on the spiral arms of the Galaxy.

Nauchno-issledovatel'skiy radiofizicheskiy institut im. G. M. Ber'kovskom

Card 2 2

KHITZHENYAKOVA, K. I.

"Forencis Medical Opinion of Abortion." Dr Med Sci, Second Moscow State Medical  
Inst imeni I. V. Stalin, Moscow, 1953. (KL, No 16, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations  
Defended at USSR Higher Educational Institutions (16).

KHIZHNYAKOVA, K.I., prof.

Determination of blood groups by milk tests; preliminary  
report. Sbor. trud. Kursk. gos. med. inst. no.16:261-262  
'62. (MIRA 17:9)

1. Iz kafedry sudebnoy meditsiny (zav. - prof. K.I. Khizhnyakova)  
Kurskogo meditsinskogo instituta.

KHIZHNYAKOVA, K.I., prof.

Morphological changes in the liver following knife wounds. Sbor.  
trud. Kursk. gos. med. inst. no.13:111-114 '58. (MIRA 14:3)

1. Iz kafedry sudebnoy meditsiny (zav. - prof. K.I.Khizhnyakova)  
Kurskogo gosudarstvennogo meditsinskogo instituta.  
(LIVER WOUNDS AND INJURIES)

KHIZHNYAKOVA, K.I.

Modification of the technic of sectional investigation of female sexual organs in abortion cases. Sud-med.ekspert. 2 no.2:53-56  
Ap-Je '59. (MIRA 13:6)

1. Kafedra sudebnoy meditsiny (zav. - prof. K.I. Khizhnyakova)  
Kurskogo meditsinskogo instituta.  
(ABORTION) (AUTOPSY)

KHIZHNYAKOVA, Klavdiya Ivanovna, GROMOV, L.I., red.

[Cytology of the secretion of the breast under normal conditions and in some diseases] Tsitologiya sekreta molochnoi zhelezy v norme i pri nekotorykh zabolevaniyakh. Moskva, Meditsina, 1965. (MIRA 18:12)

KHIZHNYAKOVA, L. N.

KHIZHNYAKOVA, L. N.- "Bronchial Asthma of Occupational and Non-occupational Origin and Its Cure by Means of a "Universal Desensizer"." Khar'kov Med Inst, Khar'kov, 1955 (Dissertations for Degree of Candidate of Medical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow



SOV/137-59-1-891

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, p 119 (USSR)

AUTHORS: Vasilenko, Yu.V., Makarchenko, A. F., Khizhnyakova, L. N.,  
Nerubenko, A. B., Protopopova, V. P.

TITLE: Contribution to the Pathology of Chronic Manganese Poisoning of  
Operators of Electrical Welding Apparatus (K klinike khronicheskoy  
intoksikatsii margantsem u elektrosvarshchikov)

PERIODICAL: V sb.: Vopr. gigiyeny truda i profzabolevaniy v gornorudn.,  
khim. i mashinostroit. prom-sti, Kiyev. Gosmedizdat UkrSSR, 1958,  
pp 175-179

ABSTRACT: An account of the results of a study dealing with the effects of Mn on  
the health of operators of electrical welding equipment during welding  
operations with coated electrodes containing ferromanganese; the  
studies were carried out at the Clinic of the Khar'kov Institute on  
Labor Sanitation and Occupational Diseases. The nature of diseases  
induced by Mn poisoning is examined together with sanitary measures  
designed to protect the workers from the toxic effects of the Mn.

V. K.

Card 1/1

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 204 (USSR) SOV/137-58-12-25531

AUTHORS: Serenko, A. S., Stanislavskiy, Ya. M., Khazan. G. L.,  
Khizhnyakova, L. N., Osetinskiy, T. G., Protsenko, G. A., Baranenko,  
A. A., Marchenko, N. I., Kotsyubenko, V. K., Nestrugina, Z. F.,  
Nerubenko, A. B., Pykhtina, O. N., Krylova, Ye. V., Kochkina, V. N.

TITLE: Sanitary-hygienic Working Conditions and Distinctive Characteristics of  
the Development of Pneumoconiosis Among the Workers at Iron-ore  
Sintering Plants (Sanitarno-gigiyenicheskiye usloviya truda i osoben-  
nosti razvitiya pnevmokonioza u rabotayushchikh na aglomeratsionnykh  
fabrikakh zheleznoy rudy)

PERIODICAL: Gigiyena truda i prof. zabolevaniya, 1958, Nr 2, pp 17-20

ABSTRACT: As a result of inspection of working conditions and the state of health  
of workers at three sintering plants the following facts were revealed:  
1) The production of the agglomerate is accompanied by high dustiness  
of the air at a number of work locations; the action of dust (containing  
SiO<sub>2</sub>) may be combined with the effect of radiant heat and the elevated  
temperature of the air in shops; 2) initial symptoms of pneumoconiosis  
(suspected silicosis and silicosis I) were found among sinterers working

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SOV/137-58-12-25531

Sanitary-hygienic Working Conditions and Distinctive Characteristics of the Development of Pneumoconiosis Among the Workers at Iron-ore Sintering Plants

in a special shop after 5 years of work; cases of pneumoconiosis were apparent in all professional groups of workers with 10 - 20 years' service, more especially among women working on the return cycle and, also, among the sinterers.

Ye. L.

INST: UKRAINSKIY NAUCHNO-INNOVATSELSKIY INSTITUT ~~GAZ~~ GIG'YENY TRUDA  
PROF ZARALEVANIY.

Card 2/2

ABRAMOVICH, K.G.; KHIZHNYAKOVA, L.N. (Khar'kov)

Dust diseases of the lungs (pneumoconiosis) in workers of the iron ore and coal industries. Klin.med. 37 no.12:118-123 D '59.

(MIRA 13:4)

1. Iz Ukrainського nauchno-issledovatel'skogo instituta gigiyeny truda i profzabolevaniy (direktor - dotsent I.I. Semernin).

(LUNGS--DUST DISEASES)

(MINERS--DISEASES AND HYGIENE)

L 63288-65 EFF(c)/3DP(i)/EWT(m) PC-1/Pr-1/E2-11 JAJ/RM/WW

ACCESSION NR: AR5017404

UR/0084/65/000/010/8090/5090

SOURCE: Ref. zh. Khimiya, Aba. 108587

AUTHOR: Khizhnyakova, N. L.; Mironova, L. I.

TITLE: Combination of rubbers with certain resins

CITED SOURCE: Vestn. tekhn. i ekon. inform. M.-i. in-t tekhn.-ekon. issled. Gos. kom-ta khim. prom-sti pri Gosplane SSR, vyp. 7, 1954, 10

TOPIC TAGS: rubber, resin, polyethylene chloride, polyethylene

TRANSLATION: Polyvinyl chloride, polyethylene, and phenolformaldehydic and inden-coumaric resins improve the properties of rubbers (production recipes of the "Krasnyy rezinshchik" [Red Rubber Worker] Plant). In addition, resorcinformaldehyde resins of various compositions and a water soluble resin strengthen latex mixtures of L-3 and L-7 nairite latexes for the production of protective gloves by the method of ionic deposition. The amount of added resins is 3-7% (per dry matter of the latex). Water soluble resins (5%) increase the strength of latex films by 30-35%. V. Kuleznev.

SUB CODE: MT

ENCL: 00

Card 1/1

MILENUSHKIN, Yu. [reviewer]; KHIZHENYAKOV, V.V.; VAYNDRAKH, G.M.; KHIZHENYAKOVA, N.V.  
[authors].

"Mechnikov's creative work and literature about him." V.V.Khizhniakov, G.M.  
Vaindrakh, N.V.Khizhniakova. Reviewed by IU.Milenushkin. Zhur.mikrobiol.epid.  
i immun. no.9:67-69 S '53. (MIRA 6:11)  
(Mechnikov, Ilya Il'ich, 1845-1916) (Khizhniakov, Vasilii Vasil'evich,  
1871- ) (Vaindrakh, Grigorii Moiseevich) (Khizhniakova, N.V.)

KHIZHNYAKOV, V.V.; VAYNDRAKH, G.M.; KHIZHNYAKOVA, N.Y. [authors]; MIREK, V.F.,  
kandidat biologicheskikh nauk [reviewer].

"Mechnikov's creative work and literature about him; a bibliographic guide."  
V.V.Khishniakov, G.M.Vaindrakh, N.V.Khishniakova. Reviewed by V.F.Mirek.  
Sov.med. 17 no.10:47-48 0 '53. (MLRA 6:10)

(Mechnikov, Il'ia Il'ich, 1845-1916) (Khishniakov, Vasilii Vasil'evich  
1871- ) (Vaindrakh, Grigorii Moiseevich)

**KHIZHNYI, E.**

The social and economic consequences of the automation of industry  
in capitalist countries. Sov.profsoiuzy 4 no.10:84-88 0 '56.

(MLBA 9:11)

(Automation)



KHIZHNYI, E.

Automation, labor, and capital ("Automation and social progress"  
[in English] by S. Lillev. Reviewed by E. Khizhnyi). Sots. trud  
no. 7:153-158 J1 '58. (MIRA 11:8)

(Automation)  
(Lillev, S.)

KHIZHNYI, El'mir Kirillovich

[What automation is doing to workers in the U.S.A.] Chto  
noset trudiashchimsia SShA avtomatizatsiia proizvodstva.  
Moskva, Profizdat, 1958, 108 p. (MIRA 12:12)  
(United States--Automation)

KHIZMOV, B., inzh.; PIRULENA, N., inzh.

The most important achievement of the seven-year plan. Rech.  
transp. 23 no.1:34-36 Ja '64. (MIRA 18:11)

DEGTYAREV, Vladimir Vladimirovich; MYASNIKOV, Maksim Vladimirovich;  
GOLOVUSHKIN, M.P., retsenzent; LAPTEV, M.I., retsenzent;  
KHIZHOV, B.M., red.; FEDYAYNVA, N.A., red.izd-va; POKHLEBKINA,  
M.I., tekhn.red.

[Mechanization of regulation operations] Voprosy mekhanizatsii  
vypravitel'nykh robot. Moskva, Izd-vo "Tekhnol transport,"  
1960. 155 p. (MIRA 14:3)

(Rivers---Regulation) (Hydraulic engineering--Equipment and supplies)

CHEKRENEV, A.I., doktor tekhn. nauk, prof.; ILINSKIY, V.A., dots.  
[deceased]; GRISHANIN, K.V., kand. tekhn. nauk, dots.;  
SELEZNEV, V.M., kand. tekhn.nauk; GILYAROV, N.P., dots., kand.  
tekhn. nauk; KOSTENKO, N.M., inzh.; Primali uchastiye:  
GRIGOR'YEV, S.N., inzh.; TEREKHOV, I.B., inzh.; KHIZHOV, B.M.,  
inzh., red.; VOLCHOK, K.M., tekhn. red.

[Practical manual on channel improvement operations in inland  
waterways]Prakticheskoe posobie po proizvodstvu vypravitel'nykh  
rabot na vnutrennikh vodnykh putiakh. Leningrad, Izd-vo "Rech-  
noi transport," 1961. 275 p. (MIRA 16:2)

1. Russia (1917- R.S.F.S.R.)Glavnoye upravleniye vodnykh putey  
i gidrotekhnicheskikh sooruzheniy.  
(Rivers--Regulation)

81191

S/020/60/132/04/19/064  
B014/B007

21.6.200

AUTHORS: Starodubtsev, S. V., Academician of the AS Uzbekskaya SSR,  
Khiznichenko, L. P., Domoryad, I. A.

TITLE: The Change of the Constants of Elasticity of Quartz Filaments  
Under the Action of the Gamma Emission of Co<sup>50</sup>

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 803-805

TEXT: The filaments investigated here by means of high-precision methods were produced from molten quartz. Determination of the constants of elasticity was carried out by means of torsional oscillations of the filament sample generated by a magnetic field. Two methods of recording the number of oscillations were tried out. In the case of one of them, the time signals of the Tashkentskaya astronomicheskaya observatoriya (Tashkent Astronomical Observatory) and the zero passages of the light beam reflected by the mirror of the loop oscilloscope were simultaneously recorded on the photographic film of a loop oscilloscope. With the other method, the oscillations per unit time were counted electronically, in

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311 1

The Change of the Constants of Elasticity of  
Quartz Filaments Under the Action of the Gamma  
Emission of Co<sup>60</sup>

S/020/60/132/04/19/064  
B014/B007

which case a chronometer was used. The second method was found to be more exact (error of 0.02%), and by means of this method the main results were obtained. Measurements were carried out with six radiation doses within the range of from  $81 \cdot 10^6$  r to  $845 \cdot 10^6$  r. Fig. 1 graphically shows the values of  $\Delta G/G$  calculated from the measurements ( $G$  is the modulus of elasticity in shear) as dependent on the dose. In curve I the linear deformation has not been considered, whereas in curve II it has. Curve III shows the change of  $\Delta l/l$  ( $l$  is the length of the filament). It was found that the modulus of elasticity in shear increases steadily with an increase in the dose; with a further increasing dose this increase becomes less. An increase in the modulus of elasticity by  $0.16 \pm 0.02\%$  was found with a dose of  $8 \cdot 10^8$  r. The increase in the modulus of elasticity is explained by the occurrence of ordered domains in the structure of the molten quartz. There are 1 figure and 4 references, 2 of which are Soviet.

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81121

The Change of the Constants of Elasticity of  
Quartz Filaments Under the Action of the Gamma  
Emission of Co<sup>60</sup>

S/020/60/132/04/19/064  
B014/B007

ASSOCIATION: Institut yadernoy fiziki Akademii nauk UzSSR (Institute of  
Nuclear Physics of the Academy of Sciences, Uzbekskaya SSR)

SUBMITTED: February 23, 1960

Card 3/3



S/638/61/001/000/049/056  
B116/B138

AUTHORS: Domoryad, I. A., Khiznichenko, L. P.  
TITLE: Method of measuring elastic properties of irradiated substances  
SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 284 - 285

TEXT: The authors studied the change of mechanical properties of substances exposed to penetrating radiation by the torsional vibration method. Results are given. The method has the following advantages: (1) the elasticity constants of samples are determined unambiguously (by measuring the frequency or cycle of torsional vibrations); (2) variations in the relaxation of samples due to radiation can be investigated at the same time over a wide temperature range; (3) higher accuracy than with the sonic resonance (Ref. 1, see below) or Bergmann-Schäfer methods (Zhdanov, G. S., Zubov, V. G., Ivanov, A. T., Firsova, M. M. V kn. "Kristallografiya" (in the book "Crystallography"), t. 3. vyp. 6, 1958). The experimental setup

Card 1/3

Method of measuring elastic...

S/638/61/001/000/049/056  
B116/B138

consisted of a tube, an optical system, and a recording circuit. Molten quartz was investigated. Quartz threads were fitted in the tube which was attached to a flange in the vacuum apparatus. The reflection mirror was made by Breshir's method. The vibrations were recorded on a photo-multiplier, from which the pulse was passed by a special circuit, which steepened the pulse front to the recording device, which determined the vibrational frequency. Only amplitudes of more than 100 mm affected the vibration cycle, which remained constant from  $p = 1 \cdot 10^{-1}$  mm Hg, while an ambient temperature of 10 - 30°C had no effect. With this method variations could be detected due to radiation during a vibration cycle of  $5 \cdot 10^{-2}$  (with a relative accuracy of 0.01%). All measurements were made at room temperature. Summary: (1) Under the action of 1.25-Mev gamma radiation with a dose of  $8 \cdot 10^8$  r, the elasticity of molten quartz increases by 0.16%. This may be due to crystallization of the molten quartz during irradiation, since the normal modulus of elasticity ( $7 \cdot 10^{11}$  dynes/cm<sup>2</sup>) of crystalline is higher than that of molten quartz ( $5 \cdot 10^{11}$  dynes/cm<sup>2</sup>). (2) The maximum contribution of the linear dimensions to the change in the

Card 2/3

Method of measuring elastic...

S/638/61/001/000/049/056  
B116/B138

shear modulus of molten quartz is only 0.02% at a dose of  $8 \cdot 10^8$  r. (3)  
The information given in the work by G. Mayer and J. Gigon (Journ. Phys. Rad., 18, 109, 1957), who stated that gamma radiation does not affect the elasticity constants of molten quartz does not contradict our results, because the accuracy of their experiments was very low (0.1%). There are 2 figures and 2 references: 1 Soviet and 1 non-Soviet.

ASSOCIATION: Fiziko-tehnicheskiy institut AN UzSSR (Physicotechnical Institute AS Uzbekskaya SSR)

Card 3/3

DOMORYAD, I.A.; KAYPNAZAROV, D.; KHIZNICHENKO, L.P.

Effect of gamma rays on the elastic properties of vitreous  
arsenic trisulfide. Izv. AN Uz.SSR. Ser. fiz.-mat. nauk 7 no.5:  
87-89 '63. (MIRA 17:8)

1. Institut yadernoy fiziki AN UzSSR.

KHIZNIAK, P. A.

YEFIMOV, A. L., OBOLENSKIY, V. N., KHIZNIAK, P. A. "Potato Wart Control in  
U. S. S. R., "Selekttsiia i Semenovodstvo, vol. 14, no. 10, 1947, pp. 26-30.  
61.9 Se5

So: SIRA S190-15, 15 Dec. 1953

KHIZNYAK, P. A.

KHIZNYAK, P. A., YAKOVLEVA, V. I., and GEGERMAN, E. A. "Development of Potato Canker Infection Under Natural Conditions," Sad i Ogorod, no. 7, 1948, pp. 66-69. 80 Sal3

So:Sira SI-19-53, 15 Dec 1953

KHIZHNYAK, P. A.

KHIZHNYAK, P. A. --"Agronomic Measures for the Control of Potato Canker."  
\*Dissertations For Degrees In Science and Engineering  
Defended at USSR Higher Educational Institutions)(29)  
Min Higher Education USSR, Odessa Agricultural Inst,  
Odessa, 1955

SO: Knizhnaya Letopis' N 29, 16 July 1955

\* For the Degree of Candidate in Agricultural Sciences

USSR/Plant Diseases. Diseases of Cultivated Plants.

0

Abs Jour: Raf Zhur-Biol., No 5, 1958, 20693.

Author : Khizhnyak, D. A.

Title : The Biology of the Carcinogene in Potato.

Inst : Inst. of Botany, Acad. Sci. USSR, Moscow.

Orig Pub: Zashchita rast. ot vredit. i bolezney, 1957,  
No 4, 41-42.

Abstract: It has been pointed out in the literature that new and more aggressive *Synchytrium endobioticum* biotypes are arising in foreign countries. Many years of experiments have demonstrated that in the USSR the cancer-resistant potato varieties preserve their ability to resist it. However it is necessary to test all previously resistant varieties

Card : 1/2



KHIZHNYAK, P.A.; SAZONIK, Kh.V.

How the treatment of soil with emulsified leather oil affects  
the causative organisms of potato wart. Zashch.rast.ot vred.i  
bol. 4 no.3:49 My-Je '59. (MIRA 13:4)

1. Direktor stantsii po raku kartofelya Vsesoyuznogo nauchno-  
issledovatel'skogo instituta, g.Chernovtsy (for Khizhnyak). 2. Zaveduyu-  
shchiy otdelom toksikologii Vsesoyuznogo nauchno-issledovatel'skogo  
instituta zashchity rasteniy, g.Chernovtsy (for Sazonik).  
(Potato wart)

ZAVT, G.S.; KRISTOFEL', N.N.; KHIZHNYAKOV, V.V.

Theory of the width of infrared absorption bands of U-centers.  
Fiz. tver. tela 7 no.8:2444-2449 Ag '65. (MIRA 18:9)

1. Institut fiziki i astronomii AN Estonskoy SSR, Tartu.

RAZIN, V.A.; KHIZHENYAKOVA, I.P.

Distribution of an ionized gas near the galactic plane. Izv.  
vys. ucheb. zav.; radiofiz. 8 no.4:822-824 '65.

(MIRA 18:9)

1. Nauchno-issledovatel'skiy radiofizicheskiy institut pri  
Gor'kovskom universitete.

L 63288-65 EPT(c)/ZMP(j)/EPT(m) Pc-1/Pr-1/1's-1 JAJ/IM/WW

ACCESSION NR: AR5017404

UR/0081/65/000/010/S090/S090

SOURCE: Ref. zh. Khimiya, Abs. 108587

AUTHOR: Khizhnyakova, N. L.; Mironova, L. I.

Combination of rubbers with certain resins

CITED SOURCE: Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-ty khim. prom-sti pri Gosplane SSSR, vyp. 7, 1954, 10

TOPIC TAGS: rubber, resin, polyethylene chloride, polyethylene

TRANSLATION: Polyvinyl chloride, polyethylene, and phenolformaldehydic and inden-coumaric resins improve the properties of rubbers (production recipes of the "Krasnyy rezinshchik" [Red Rubber Worker] Plant). In addition, resorcinformaldehyde resins of various compositions and a water soluble resin strengthen latex mixtures of S-1 and L-1 naitite latexes for the production of protective gloves by the method of ionic deposition. The amount of added resins is 3-4% (per dry matter of the latex). Water soluble resins (5%) increase the strength of latex films by 30-40%. Kuleznev.

DE CODE: NT

INCL: 00

KHIZORYAN, S.M.

New beetle found in the Armenian S.S.R. (Coleoptera, Attelabidae).  
Dokl. AN Arm. SSR 18 no.5:147-149 '54. (MLRA 8:7)

1. Predstavleno G.Kh. Bunyatyanom. (Armenia--Beetles)

L 45712-66 EWT(m)/ENP(j)/T WW/JW/JND/RM  
ACC NR: AP6024394

SOURCE CODE: UR/0020/66/169/002/0339/0342

AUTHOR: Brodskiy, A. I. (Corresponding member AN SSSR); Pokhodenko, V. D.; Khishnyy, V. A.; Kalibabchuk, N. N.

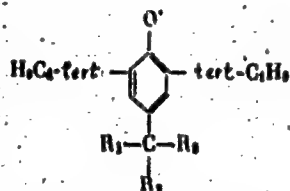
ORG: Institute of Physical Chemistry im. L. V. Pisarzhevskiy, Academy of Sciences, UkrSSR (Institut fizicheskoy khimii Akademii nauk UkrSSR)

TITLE: Mechanism of conversions of para-alkyl-di-ortho-tert-butylphenoxyl radicals

SOURCE: AN SSSR. Doklady, v. 169, no. 2, 1966, 339-342

TOPIC TAGS: free radical, phenol

ABSTRACT: The kinetics of disappearance of radicals (I) and (II)



$R_1=R_2=R_3=H$  (I)  
 $R_1=R_2=H; R_3=CH_3$  (II)

in benzene solutions were studied. The initial phenol solutions were oxidized in a vacuum by means of  $PbO_2$ , the oxidizing agent was driven off under vacuum, and the change in the concentration of these radicals with time was determined from ESR spec-

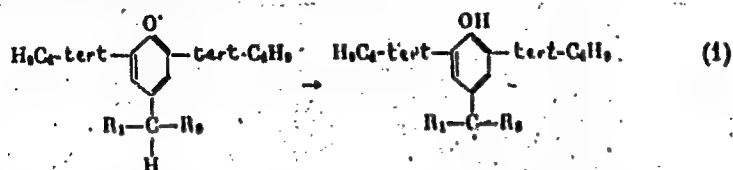
Card 1/3

UDC: 541.515

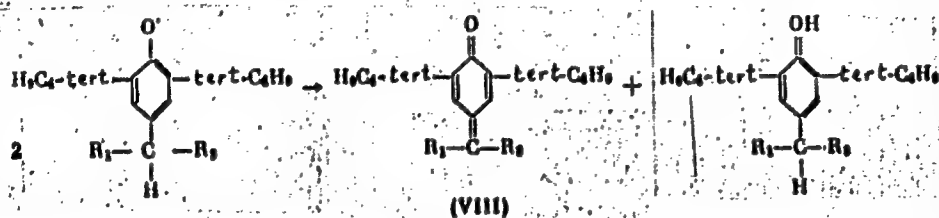
L 45712-66

ACC NR: AF6024394

tra. The kinetic curves obtained showed that the rate of disappearance of radical I at 25° and radical II at 21 and 26° follows a first-order kinetic equation corresponding to the conversion



The disappearance of radical II at 47° obeys a second-order equation in accordance with the reaction



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ACC NR: AF6024394

At the intermediate temperature of 35°, a mixed mechanism is observed. The data indicate that radical II is more stable than radical I. The results of kinetic measurements show that the disappearance of 2,6-di-tert butyl-4-alkylphenoxy radicals containing  $\alpha$  hydrogen atoms in the para-substituents takes place quite rapidly via either mechanism (1) or (2), depending upon the structure of these substituents and the temperature. Orig. art. has: 2 figures, 1 table, and 5 formulas.

SUB CODE: 07/ SUBM DATE: 23Dec65/ ORIG REF: 004/ OTH REF: 008

Card 3/312 LR



*KHIZORYAN, S. M.*

USSR / General and Special Zoology. Insects. System-  
atics and Faunistics. P

Abs Jour: Ref Zhur-Biol., No 14, 1958, 63923.

Author : Khizoryan, S. M.

Inst : AS ArmSSR.

Title : A New Species of Darkling Beetles from Armenian  
SSR.

Orig Pub: Dokl. AN ArmSSR, 1956, 23, No 1, 41-43.

Abstract: A detailed morphological description of Cata-  
phronetis plagioonema sp.n. and remarks on its  
position in the system of the tribe Cataphron-  
etini.

Card 1/1

MEDVEDEV, R.; KHIZHNYI, E.

➤ Effect of automation on workers' qualifications in capitalist  
countries. Sots. trud '7 no.8:32-39 Ag '62.

(MIRA 15:10)

(Automation—Economic aspects)

KHKHLOV, Vikentiy Alekseyevich; PETROV, B.N., akademik, otv. red.

[Electrohydraulic servo drive] Elektrogidravlicheski  
slediaschii privod. Moskva, Izd-vo "Nauka," 1964. 230 p.  
(MIRA 17:6)

KULAYEV, I.S.; POLONSKIY, Yu.S.; KHLABALINA, O.I.; CHIGIREV, V.S.

Study of the mechanism of the absorption of orthophosphate of  
the medium by the mycelium of *Penicillium chrysogenum*. *Biokhimiya*  
29 no.4:759-773 J1-Ag '64. (MIRA 18:6)

1. Gosudarstvennyy universitet imeni Lomonosova, Moskva.

L 32713-65 EWT(m)/EPT(c)/EWG(m)/EPP(n)-2/EPR Pr-1/Pa-1/Pu-1

ACCESSION NR: AT5003931

S/3065/61/000/036/0058/0100

AUTHOR: Khlabynin, E. G. (Engineer)

TITLE: Analysis of the construction of protective walls in a building of a nuclear installation

SOURCE: Moscow. Inzhenerno-stroitel'nyy institut. Sbornik trudov, no. 36, 1961. Kafedra stroitel'stva yadernykh ustanovok (Department for the construction of nuclear engineering installations). 58-100

TOPIC TAGS: radiation shielding, human engineering, irradiation exposure, radioactivity, construction material

ABSTRACT: The requirements and techniques of constructing protective walls and coverings at a nuclear installation are discussed, both in regard to an accelerator and an electrical power generating station. The cost and unit weight of the construction members of a power station are tabulated. The calculations indicate that about 75% of the cost is incurred in constructing protective walls, floors, and coverings in contact with radioactive contaminants. The construction features of earlier nuclear installations are reviewed, with particular regard given to protective construction. Weights, volumes, and areas of protective members of precast

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ACCESSION NR: AT5003931

concrete and reinforced concrete used in nuclear constructions in the USA and the SSSR are tabulated, and wall thickness plots versus percent of total area are shown for two projects. A cross section showing placement of protective members is given in Fig. 1 on the Enclosure. Methods of solving the problems of clearances between concrete monoliths and subsequent sealing of joints are discussed; the breakdown of costs and expenditure for wooden bracing and forms are tabulated for installations in the USA and the SSSR. Economics of construction are referenced to a table giving the breakdown of both cost and labor for 9 prototype protective members; the same members are referenced to costs incurred in summer versus winter-time construction. The advantages and disadvantages of several types of construction are reviewed. Precast monolithic panels were found to be favorable in several respects. A discussion of reinforcement in precast panels and the manner of filling voids between panels is given. The expense of the panel construction is compared with types with regard to both capital and labor. The protective qualities of construction types are referenced to water voids in the material, to type of material, and to the likelihood of crack formation and deterioration. Dimensions, and placing of T-form blocks and of panels in both countries are compared; the corresponding costs are presented. Steel reinforcement positioning and crack hazard is discussed. Cost and material volumes for walls and floors are compared in a table. The author's summary consists of recommendations

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ACCESSION NR: AT5003931

for methods of preparation of members, their reinforcement and placing, and for selection of the best type of member. Orig. act. has 17 tables and 16 figures.

ASSOCIATION: Moscow inzhenerno-stroitelnyy institut (Moscow Engineering Construction Institute)

SUBMITTED: 00

ENCL: 01

SUB CODE: PH, NP

NO REF SOV: 009

OTHER: 002

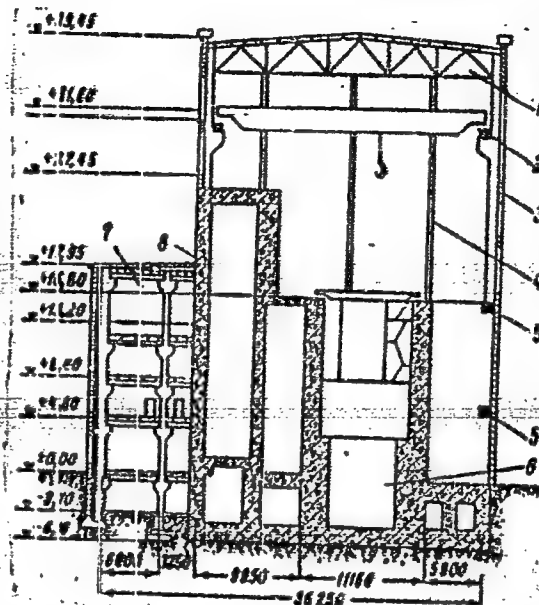
Card 3/4

L 32713-65

ACCESSION NR: AT5C03931

ENCLOSURE: 01

Fig. 1. Example of grouping of sections in an atomic energy station. 1 - metal roof form; 2 - crane rail; 3 - reinforced concrete column; 4 - reinforced concrete column of rodding wall; 5 - reinforced concrete framework; 6 - reactor well; 7 - service facilities; 8 - protective walls



Card 4/4

KHLABYNIN, E.G., inzh.

Analysis of elements of protective walls in buildings for nuclear  
plants. Sbor. trud. MISI no.36:58-100 '61. (MIRA 14:7)  
(Nuclear reactors)  
(Shielding (Radiation))



KHLABYNIN, E.G.

Selecting the best shielding materials for the protective  
walls of nuclear power plants. Sbor. trad. MISI no.41:65-86  
'62. (MIRA 16:6)

(Shielding(Radiation))

L 41692-65 ENT(m)/EP(c)/EPF(n)-2/ENG(m)/EPR/ENA(h) PR-4/PS-4/Pu-4  
 8/3063/62/000/0-1/0065/0086  
 ACCESSION NR: AT5003177

AUTHOR: Khlabyrin, E. G.

TITLE: Selecting optimum shielding materials for the shielding walls of buildings in nuclear installations

SOURCE: Moscow, Inzhenerno-stroitel'nyy institut. Sbornik trudov, no. 41, 1962. Stroitel'stva yadernykh ustroystv. Proektirovaniye i stroitel'stvo yadernykh ustroystv (Department for the construction of nuclear engineering installations). Design and construction of nuclear engineering installations.

TOPIC TAGS: radiation shielding cost optimization, radiation shielding construction, shielding wall construction, shielding wall material, concrete design, radiation shielding design, nuclear installation design

ABSTRACT: This article is essentially a cost efficiency study aimed at a rational selection of the most economical materials and configurations for shielding walls of nuclear installations. The initial approach to cost efficiency is made by considering the cost of one cubic meter of a shielding wall. The cost, C, is assumed to be given by the following formula

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L 41682-65

ACCESSION NR: AT50031/7

$$C = k \cdot d^n \quad (1)$$

where  $d$  is the density of the material and  $k$  and  $n$  are constants. Statistical studies of nuclear installations, including one US and one British source, lead to the conclusion that the exponent " $n$ " in equation (1) is consistently large, between 3 and 4, with a deviation of only about 20%. The author concludes that if the cost of the wall material alone is considered, the lightest concrete would be best. However, thicker walls increase the overall volume of the installation. Hence, for smaller enclosures, high density concrete may be more suitable. Graphs are given to show the volume and weight of shielding of a 5 cubic meter box as a function of concrete density. Total shielding weight decreases 40% for a 5 cubic meter box in going from a 2.3 density concrete to a density of 5.0. A lighter foundation gives an additional advantage to the heavy concrete wall. It is shown that for large enclosure the cost of shielding a unit enclosure volume decreases with increasing size, and increases with an increase in concrete density. Ordinarily, then, low density concretes would be preferable for larger enclosures. Attention is then directed to special cases where heavy concretes may become advantageous. One such case is where numerous accessories

Card 2/3

2 41682-65

ACCESSION NR: AT5003177

rate the shielding walls. The cost of increasing the length of pipes, con-  
tables, etc. is considered and the case analyzed. Consideration is then  
distances from the wall to the radiation source. Since these distances,  
angle of radiation path thru the wall, are quite different, a refined  
analysis is made, considering walls of varying thickness. Stepped thickness  
and stepped concrete densities. It is shown that by permitting  
economies. Stepped density concrete can also be used by permitting  
constant-thickness, optimum wall construction and the effect of  
simplification of design. Orig. art. has: 4 tables, 7 figures and 42 : 1000.

ASSOCIATION: Kafetra stroitel'stva yadernykh ustanovok, Moskovskiy inzhenerno-  
stroitel'nyy institut (Department for the Construction of Nuclear Engineering  
Installations, Moscow Engineering and Construction Institute)

SUBMITTED: 00

NO REF SOV: 006

ENCL: 00

OTHER: 002

SUB CODE: MT, NP

MC  
Card 3/3

KHLADEK, E.I., BERLIN, L.B. and FRUMIN, Z.D.

"Assimilation of Foodstuffs in Chronic Enterocolitis."  
[Terap. Arkh.] 21, No.5, 36-47, Sept.-Oct., 1949. 11 refs.

The authors investigated during 1946-7 the assimilation of food in 4 patients with chronic entero-colitis and in 1 patient with chronic colitis. All patients received a diet containing 141 to 150g. protein, 60 to 63g. fat, and 400 to 500g. carbohydrates, fat, minerals, calcium, and phosphate in the diet was known. Food which was left over by the patient, and the urine and stools in each case were chemically analysed for nitrogen, calcium, phosphates, minerals, proteins, fat and carbohydrates. The investigations were first carried out in admission and then towards the end of the treatment, which included the administration of liver extract and vitamins. Five case histories are given. All patients had suffered from very severe diarrhoea, loss of weight, lassitude, and symptoms of dehydration and anaemia. In 2 cases there were achlorhydria and hypoproteinaemia. The absorption of protein in one case was 69.71% on admission and 86% after treatment. The mineral balance was practically normal, and fat and carbohydrate assimilation was always normal.

In a very severe case of chronic entero-colitis with osteoporosis, anaemia, and normal gastric juice, the protein assimilation 67.8% and fat assimilation 68.7% with an improvement after treatment. There was a negative mineral balance which became positive. Carbohydrate absorption was normal. In a third case of chronic colitis, with diarrhoea, abdominal pain, and loss of weight, the assimilation of protein, fat, carbohydrate, calcium, and phosphate was practically normal on admission and after treatment. These findings were taken to indicate that is the main interference with absorption of food in chronic entero-colitis occurs in the small intestine. The authors emphasize that this should be taken into consideration in treatment of cases of chronic entero-colitis, the food intake being adjusted accordingly.

N. Chatelain

Abstracts of World Medicine. Vol.8, 1950.

*Khladak, Z.*

USSR / General and Specialized Zoology - Insects

0-7

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 23213

Author : Khladak, Z

Inst : Not Given

Title : Improved Chemical Methods of Controlling Earth Fleas on Beets and Grains

Orig Pub : Sb. stud. nauch.-issled. rabot. Mosk. s.-kh. akad. im, K.A. Timiryazeva, 1956, No 6, 35-40

Abstract : According to experiments at the Ramon testing station in 1954 the introduction of 30 kg/hectare of 25% BHC into the soil by cultivator before sowing sugar beets, summer wheat and barley, diminishes the number of southernbeet fleas and striped grain fleas larva by 3 times and young beetles by  $11\frac{1}{2}$  times. Treatment by an 0.25-0.33% solution of 2,4-D of 600 l/hectare of neglected sections infested by goosefoot family weeds after massive egg deposits by beet fleas results in an almost total destruction of weeds and also flea larvae. The above ground

Card : 1/2

KHLAMOV, G.S.

The tractor industry in the sixth five-year plan. Za rul.  
14 no.6:5-6 8 '56.

(MLRA 10:4)

1. Ministr traktornogo i sel'skokhozyaystvennogo mashinostroyeniya  
SSSR.

(Tractor industry)



KHILAMOV, G.S.

Ways for expansion and further progress in the Soviet farm machinery industry. Sel'khoz mashina no.10:1-3 0 '57. (MLBA 10:9)

1. Ministr SSSR.

(Agricultural machinery industry)

A M KHLAMOVA and G A SEMENOV

"Development of the Technology for Manufacturing Materials with Low Dispersion in an Anomalous Glow Discharge" from Annotations of Works Completed in 1955 at the State Union Sci. Res. Inst. Min. of Radio Engineering Ind.

So: B-3,080,964

NAUMOVA, S. A.

USSR

/ Determination of isobutene by the hydrochlorination method. M. I. Dement'eva, S. A. Khamova, and V. N. ...  
Brikh. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov (KhimGAZ)* 6, 257-61 (1957). — A minor modification of the McMullan method (C.A. 32, 2722) is recommended for mixts. contg. less than 50% isobutene or bitadiene.  
W. M. Sternberg

КХЛМОВА, С.  
USSR.

Determination of acetylene in gas. S. Al Khlanova and  
M. I. Dement'eva. *Trudy Vsesoyuznogo Nauchno-Issledovatel'skogo  
Instituta Khim. Pererabotki Gazov (Khimgaz)* 6, 201-6  
(1951).—Lebeau and Hanicns's method (C.A. 12, 1444)  
is entirely applicable to the detn. of  $C_2H_2$  in the presence of  
alkenes. Soda-lime can be safely used for the absorption of  
 $CO_2$  from gases high in  $C_2H_2$ . W. M. Sternberg

BELOV, A.N.; DEMENT'YEVA, M.I.; NEMTSOV, N.Yu.; KHAMOVA, S.A.

Automatic apparatus for adsorption analysis of hydro-  
carbon gases. [Trudy] IO NPO Priborprom no.4:168-180  
'59. (MIRA 13:2)  
(Hydrocarbons--Analysis)

KHLAPIN, A., tekhnik-mekhanik.

Shortcomings of a new textbook. Rech.transp. 14 no.3:3 of cover.  
Mr '55. (MIRA 8:5)

(Marine engines) (Plakhov, V.S.)

KANFER, V.D.; KRIVOSHEYEV, V.N.; YEFANOVA, N.I.; KHLAPONIN, N.S.

Quality of lime and the kilning cycle in a kiln with fluidized  
bed. Stroil. mat. 10 no.7:29-31 JI. '64 (MIRA 18:1)

KHLAPONINA, S. YA

PA 45/49T86

USSR/Medicine - First Aid  
Medicine - Wounds, Therapy

Apr 49

"Organizing the Operation of the Traumatological Station in Petrograd Rayon of Leningrad," S. Ya. Khlaponina, Traumatol Sta, Petrograd Rayon, Leningrad, 5 pp

Khlaponina" No 4

Has operated continuously since Nov 1936 at Poly-clinic No 31, First Leningrad Med Inst (ment I. P. Pavlov. Staff: director, five physicians, head surgery nurse, four general nurses, medical nurse, registrar-statistician, and four orderlies. A  
45/49T86

USSR/Medicine - First Aid (Contd) Apr 49

Graph and tables give organization of station, type of injury treated and average days of in-capacity of the injured, according to type of injury. Biweekly consultations are held by Prof Yu. Ya. Dehanelidze and Docent Z. V. Ogloblina. Gen State Traumatol Inst aids in administration. More specialists and better organization will increase the use of surgical and clinical facilities.

45/49T86



ACC NR: AT6036519

SOURCE CODE: UR/0000/66/000/000/0097/0028 2

AUTHOR: Vasil'yev, I. S.; Ryzhov, N. I.; Derbenova, N. N.; Portman, A. I.;  
Dorofeyeva, N. Zh.; Khlaponina, V. F.; Kabachenko, A. S.

ORG: none

TITLE: Effect of proton and gamma irradiation on the mitotic activity of trans-  
planted human cell cultures [Paper presented at the Conference on Problems of Space  
Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmiches-  
koy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966,  
97-98.

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect,  
relative biologic efficiency, human cell culture, radiation tissue effect, mitosis

ABSTRACT: Transplanted cell cultures are a valuable object of radiobiological  
study because of their high radiosensitivity. They are sometimes the  
only biological objects available for study of low-energy radiation effects.  
This series of experiments was conducted to determine the comparative  
effect of proton and gamma irradiation on the mitotic activity of human  
amniotic cells. Two-day-old cultures of amniotic cells, in single layer  
or in suspension, were irradiated with 630-Mev protons from an OIYAI

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ACC NR: AT6036519

synchrocyclotron or with Co<sup>60</sup> gamma rays. The dose power of protons was 35 rad/sec and of gamma rays, 3 rad/sec. The activation and luminescent methods of proton dosimetry were used. Ionization chambers were used to monitor the beam. Mitotic activity was determined immediately after gamma irradiation, and then at intervals of 12, 24, 36, and 48 hr. Similar determinations were made 10, 20, 40, and 60 hr after proton irradiation.

A definite change in mitotic activity due to gamma and proton irradiation was observed in these experiments. Immediately after gamma irradiation with all doses the mitotic index decreased, reaching 1.6-1.3 with a 1000-1500 rad dose, as compared with 5.5 in the control. With doses of gamma rays from 750 to 1500 rad the mitotic index fell to 0.5-0.6 within 12 hr. A different pattern was observed following proton irradiation: within 10 hr of irradiation with 40-450 rad the mitotic index increased approximately 50% as compared with the control. Only with large proton doses did mitotic activity decrease. Twenty hr after proton irradiation with 40-1000 rad, the mitotic index reached a low of 1.4-0.07 (1.9 in the control).

Intensive recovery of the mitotic index in the postradiation period was

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ACC NR: AT6036519

observed with both types of radiation: the index had reached initial levels within 36-40 hr for almost all doses. Two days after gamma irradiation the mitotic index was 2-3 times higher than the initial level, whereas after proton irradiation the mitotic index recovered in three days.

Comparison of changes in mitotic activity after both proton and gamma irradiation showed the clear dose dependence of depression of mitotic activity. The same pattern of changes was observed after both types of irradiation, and quantitative relationships in observed processes were identical in both cases. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

1111

*Properties of alloys*

**\*Isothermal Transformation of Supersaturated Solid Solutions of Aluminium and Manganese in Magnesium.** I. I. Kremlov and A. N. Khlagiva (*Izv. Akad. Nauk. SSSR, Met. Fiz., Khim. Anal.*, 1951, 16, (4), 144-150; *C. Abs.*, 1951, 65, 621). — (In Russian). The process of transformation was studied in alloys containing Al 2-14.5% and Mn 0-10-1-15% at 100°-350° C. The alloys fall within the field of supersaturated ternary solid soln. Specimens were kept for 3 days sealed in evacuated tubes at 450° C. and were then transferred to a furnace maintained at the requisite temp. where they were kept for a definite time, after which they were water-quenched. At 350° and 300° C. the precipitated phase appeared in the form of large shiny particles throughout the entire field of the solid soln. There was no change in hardness. At 250°-150° C. the precipitated phase was pearlitic; the pptn. started along grain boundaries. Decompn. of the solid soln. at this temp. was accompanied by a considerable increase in hardness. At 100° C. no noticeable change was observed in the microstructure or hardness. The rate of transformation increased with the Al and Mn content. In consequence of the isothermal transformation the same hardness was attained as upon ordinary aging, though in less time.

КНИПОВА, А.М.

Chemical Abat.  
Vol. 48  
Apr. 10, 1954  
Water, Sewage, and Sanitation

Khlopova, A. N., and Kuznetsov, V. G.: Rentgenogra-  
ficheskiy kvalitatsionnyi analiz kachestvennykh i kolich-  
(Radiographic Qualitative Photo Analysis of Subst-  
stances). Moscow: Izdatel'stvo Akad. Nauk S.S.S.R.  
1952. 114 pp. 26 X. 19 Kop.

KHLAPOVA, A. N.

Mar/Apr 53

USSR/Physics - Iron Rusting

"Structure of Iron Oxides Formed in the Boiler Equipment of Heat and Electric Power Plants," A. N. Khlapova, Inst of Gen and Inorg Chem, Acad Sci USSR

Iz Ak Nauk SSSR, Ser Fiz, Vol 17, No 2, Pp 186-194

Attempts to clarify mechanism iron oxide formation in boilers. Depending on physicochemical conditions of boiler processes, hematite, magnetite, and ferrous oxide form in boiler deposits. Establishes that magnetite and hematite occur not only in pure form but also in the form of a solid soln between magnetite and paramagnetic iron oxide ( $\text{Fe}_3\text{O}_4$  with  $\gamma\text{-Fe}_2\text{O}_3$ ). Received 17 Feb 53.

262T93

KHLAPOVA, A. N.

Radiographic investigation of sludge from anodic solution of silver-palladium alloys in normal nitric acid.

M. A. Kioriko, A. N. Khlapova, and Z. S. Medvedeva. *1948. Zhurnal Fizicheskoi Khimii, Mosk. S.S.S.R. 22, 138-41 (1948).* X-ray analysis of the anodic sludge formed during electrolytic dissolving of Ag-Pd alloys showed it to be the same solid sol. as the anode from which they formed. The sludge forms as a result of uneven dissolving of the surface of the anodes of which individual areas can have different electrode potentials. In the course of electrolysis these areas fall off the anode, forming the sludge.

M. Hosh

Inst Gen Inorg Chem - N.S. Kurnakov, A.S. USSR

U S S R

Reaction of cobalt with indium. A. N. Khlapova, Khim. Redkikh Elementov, 1964, No. 1, 115-116 (1964).—Alloys of Co with In, prepd. in vacuo, at 900-500°, were examd. microscopically and with x-rays. The formation of Co<sub>2</sub>In, CoIn, and CoIn<sub>2</sub> is indicated; the 1st ppts. from the melt, and the last 2 are formed in peritectic reaction between the melt and the solid phase. The lattice of In is unaltered in the alloys. At concn. below 40 at. % of In there exists a eutectic between  $\gamma$ -Co and CoIn<sub>2</sub>. At low temps. there exist 2-phase systems: Co-CoIn<sub>2</sub>, CoIn-CoIn<sub>2</sub>, CoIn-CoIn, and CoIn-In. Under 600° transformations were detected in alloys rich in either Co or In. Indium tends to stabilize the cubic form of Co down to room temp. G. M. Kosolapov.

11-20



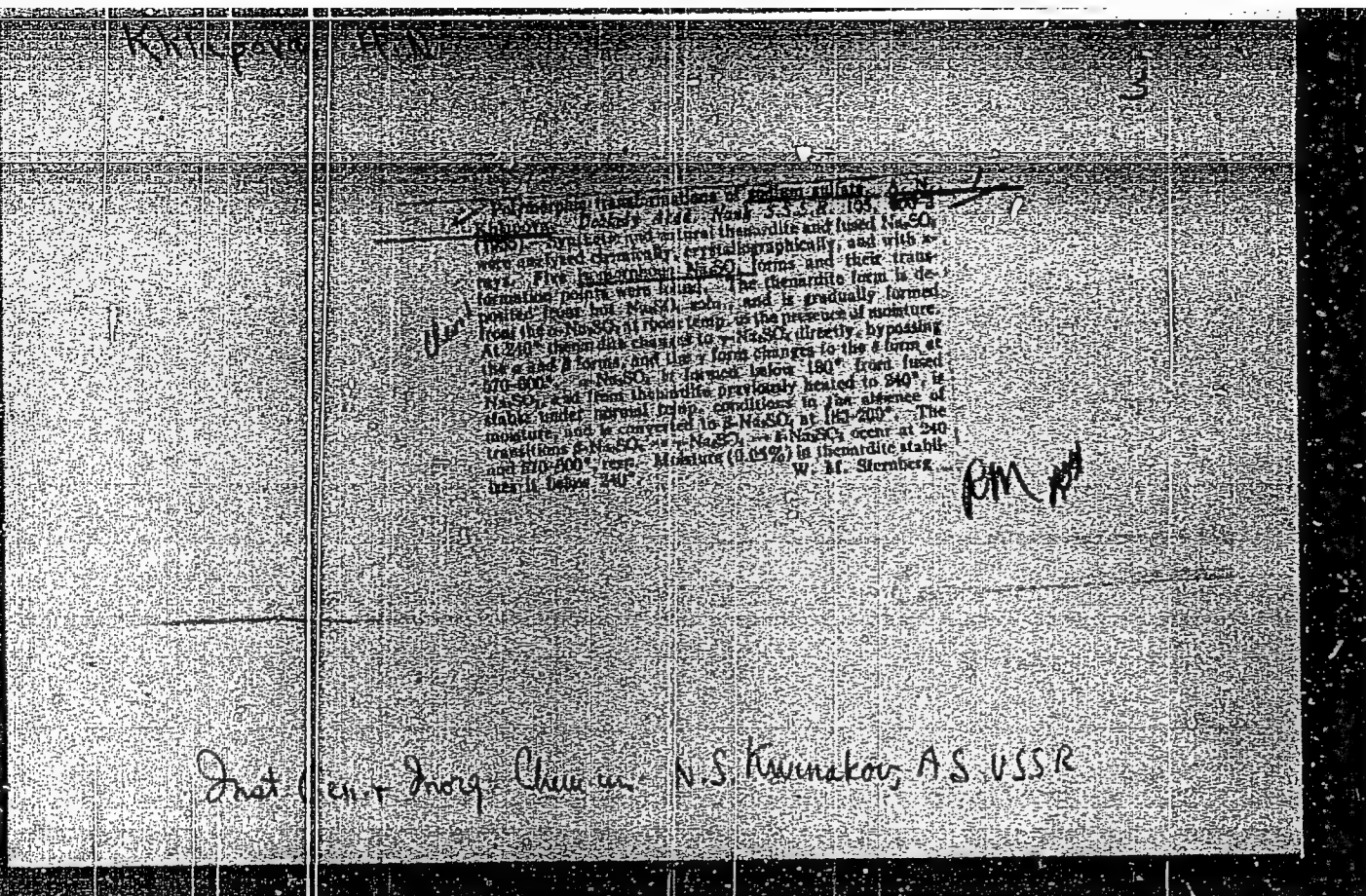
KHLAPOVA A.N.

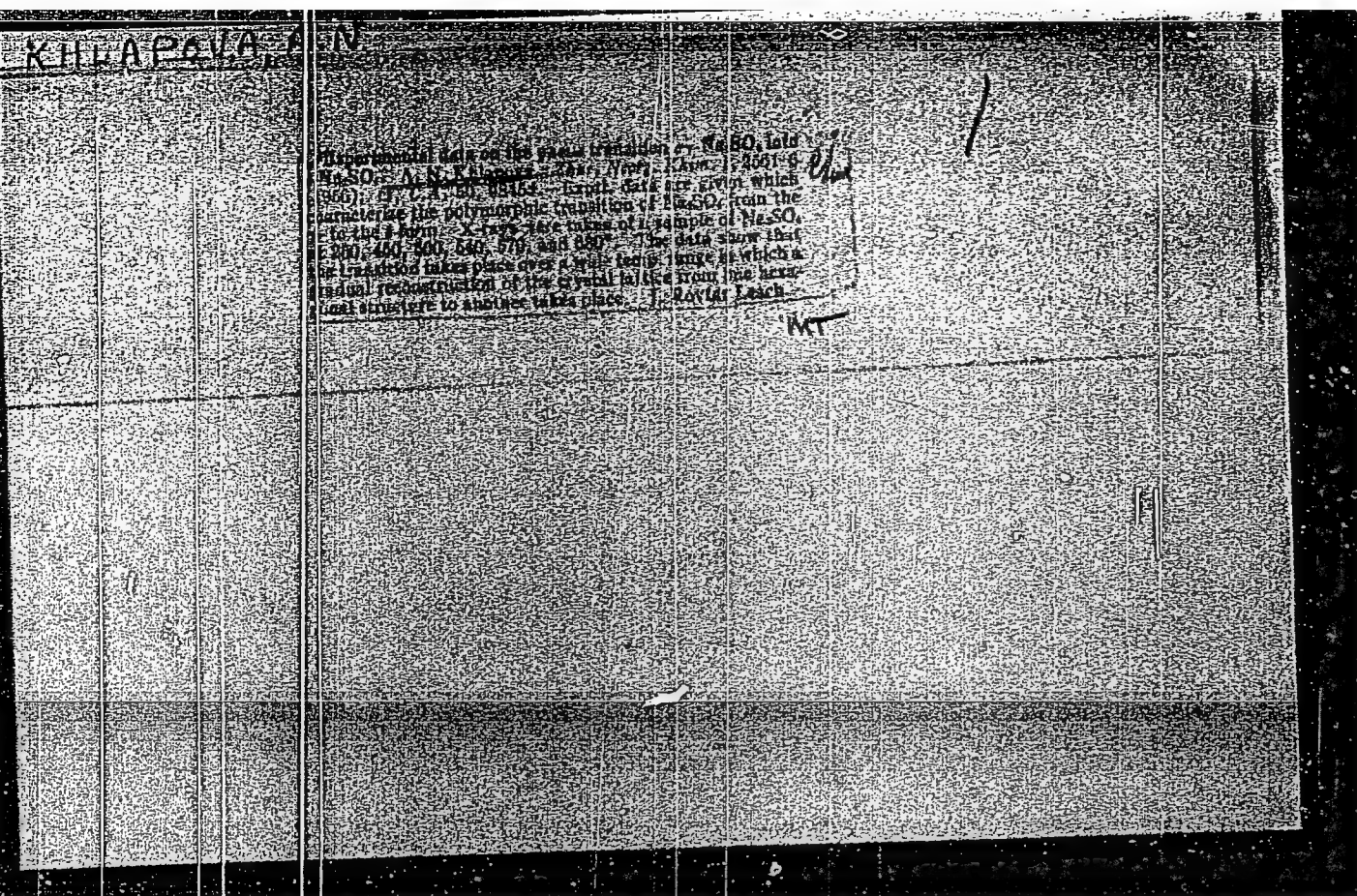
3

①

X-ray study of system sodium sulfate-sodium hydroxide.  
A. N. Khlapova and V. M. Bleninskaya. *Izvest. Sektora  
Nauch. Issled. Inst. Obshchestv. Nauch. Khim., Akad.  
Nauk S.S.S.R.* 25, 165-7 (1964); cf. *ibid.* 24, 280; preced-  
ing abstr. X-ray study confirmed previous conclusions.  
Na<sub>2</sub>SO<sub>4</sub>-NaOH mixts. contg. 10% (I), 15.8% (II), 25.0%  
(III), and 36% (IV) NaOH were prepd. by the method of  
Ravich, *et al.* I and II were slowly cooled, with stirring,  
and held several hrs. at 480-60°. III and IV were roasted  
several hrs. at 318-10°. Samples were tamped into quartz  
capillaries. In spite of precautions very small amts. of H<sub>2</sub>O  
and CO<sub>2</sub> were absorbed by the samples but the pictures  
could still be read. Evrilia Mayerle

A 24





*Khlapova, A.N.*

USSR/ Physical Chemistry - Crystals

B-5

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10925

Author : Medvedeva Z.S., Khlapova A.N.  
 Inst : Institute of General and Inorganic Chemistry, Academy of Sciences USSR  
 Title : Roentgenographic Investigation of Anodic Sludge and Cathodic Sediments  
 Formed on Electrolysis of Silver-Tellurium Alloys

Orig Pub : Izv. Sektora fiz.-khim. analiza IONKh AN SSSR, 1956, 27, 141-149

Abstract : Roentgenographic phase analysis has been carried out on 3 samples of anodic sludge and 3 samples of cathodic sediment formed on electrolysis in a nitric acid solution with an anode of Te-containing Ag. Conditions of recording: powder method, unfiltered Fe- K-radiation, exposure 20-25 hours, camera 57.3 mm in diameter, thickness of sample 0.3-0.7 mm. For comparison roentgenograms were recorded of pure Ag, Te and Ag-telluride, subjected to preliminary roasting in vacuum ampoules. Investigation showed that anodic sludges are mechanical mixtures of Ag and Ag<sub>2</sub>Te, possibly with some Te, while cathodic sediments are mechanical mixtures of solid solution Ag-Te (up to 0.5 atom % Te) and amorphous Te. Thermal analysis of cathodic sediments, using N.S. Furnakov's pyrometer, has confirmed the presence therein

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USSR/ Physical Chemistry - Crystals

APPROVED FOR RELEASE: 09/17/2001 CIA-RDP86-00513R000722020019-8

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 10925

of Te and partial dissolution of Te in Ag deposited at the cathode during electrolysis.

Card 2/2

8(6)

SOV/112-59-3-4484

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 29 (USSR)

AUTHOR: Khlapova, A. N.

TITLE: The Nature of Solid Deposits in Industrial Steam Boilers and Turbines  
(K voprosu o prirode tverdykh otlozheniy v promyshlennyykh parovykh kotlakh i turbinakh)

PERIODICAL: V sb.: Vnutrikotlovyye fiz-khim. protsessy, vodopodgotovka i vodn. rezhimy kotlov na elektrost. vysokikh i sverkhvysokikh parametrov. M., AS USSR, 1957, pp 264-281

ABSTRACT: Findings of phase-and-chemical analyses of scales, sludges, and mineral deposits are presented. It is noted that the phase compositions of sludge and scale are identical; the difference between them lies in the particle dispersion; in the sludge the particles are under, while in scales over  $10^{-6}$  cm. In both scale and sludge, the phosphates are included largely as compounds of phosphorite  $\text{Ca}_3(\text{PO}_4)_2 \cdot \text{H}_2\text{O}$  or brushite  $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$ , seldom as

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8(6)

SOV/112-59-3-4484

The Nature of Solid Deposits in Industrial Steam Boilers and Turbines

chlorapatite  $3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaCl}_2$  or carbonate-apatite  $3\text{Ca}_3(\text{PO}_4)_2 \cdot \text{CaCO}_3$ . Phosphates form a mechanical mixture with iron oxides, copper, calcite, anhydrite, serpentine, and calcium hydroxide. No hydroxyl-apatite was detected. The following deposits were found in the turbines: in the zone of pressures of over 20 atm, sodium disilicate, sodium ferrosilicate, sodium alumo-silicate, and small quantities of quartz and cristobalite; in the 2-3-atm zone, quartz; in the pressure zone below 3 atm, amorphous silicic acid. Iron oxides are deposited in the turbine in the following way: in the first stages, magnetite, in the last stages, hematite. The following crystalline mixture was found in the deposits of the turbine fed by once-through boilers: sodium hydrate, sodium chloride, magnetite, and mixtures (sodium silicate, quartz and hematite).

Yu.V.Z.

Card 2/2



8(6)

SOV/112-59-2-2519

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 35 (USSR)

AUTHOR: Khlapova, A. N., and Deyev, I. T.

TITLE: X-Ray Diffraction Study of Boiler Corrosion Products  
(Rentgenograficheskoye issledovaniye produktov kotel'noy korrozii)

PERIODICAL: V sb.: Vnutrikotlovyye fiz.-khim. protsessy, vodopodgotovka i  
vodn. rezhimy kotlov na elektrost. vysokikh i sverkhvysokikh parametrov.  
M., AS USSR, 1957, pp 423-426

ABSTRACT: Results are reported of an x-ray diffraction study of corrosion products collected from economizer tubes of a 35-atm boiler and also from the tubes of a 110-atm corrosion-test stand. In the economizer tube, deposits were found that contained various-composition particles and flakes of scale. Some particles consisted of a mixture of magnetite, hematite, and phosphorite; others consisted of magnetite, ferrous oxide, and hematite. The scale flakes consisted mainly of magnetite, ferrous oxide, and an admixture of hematite.

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SOV/112-59-2-2519

X-Ray Diffraction Study of Boiler Corrosion Products

The outer and inner layers of a particle have a different composition: the former consists of hematite and magnetite, and the latter of magnetite and ferrous oxide. A magnetite solid solution with the magnetite crystalline lattice was found in the scale. Magnetite and its solid solution were also found in tube samples from the corrosion-test stand. The above investigations led the authors to the conclusion that the inner boiler scale consists of a mixture of iron oxides ( $\text{FeO}$ ,  $\text{Fe}_3\text{O}_4$ , and  $\alpha\text{-Fe}_2\text{O}_3$ ) and has the same structure independent of boiler water alkalinity.

Yu.V.Z.

Card 2/2



KHLAPOVA, A.N.; BUROVAYA, N.Ye.

X-ray and crystallo optical analysis of alloys of the system  $\text{Na}_2\text{CO}_3$  ---  
 $\text{Na}_2\text{CO}_3$ . Zhur. neorg. khim. 2 no.8:1864-1882 Ag '57. (MIRA 11:3)  
(Sodium carbonates--Spectra) (Sodium sulfates--Spectra)

20-6-24/42

AUTHOR: Khlapova, A. N.

TITLE: New Data on Polymorphism of Sodium Carbonate (Novyye dannyye o polimorfizme karbonata natriya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 6, pp. 979 - 982 (USSR)

ABSTRACT: According to hitherto existing data (ref. 1, 2) waterfree sodium carbonate has at the most 2 polymorphous transformations. The author has carried out a radiographic and thermographic investigation of the process of the transformation in dependence on the temperature and the hitherto existing history of the sample. Table 1 and 2, figure 1 and 2, respectively, show that  $\text{Na}_2\text{CO}_3$  exists within the temperature range of from room- up to melting-temperature in 4 crystalline forms, but not, as hitherto assumed, in the two ones. This agrees to the following results of the thermographic investigations (figure 3, table 3). The 4 forms mentioned are the following ones:

- a)  $\alpha$ - $\text{Na}_2\text{CO}_3$  - the modification of the low temperature up to 340 - 350°
- b)  $\beta$ - $\text{Na}_2\text{CO}_3$  - of from 340 - 350° up to 470 - 485°
- c)  $\gamma$ - $\text{Na}_2\text{CO}_3$  - of from 470 - 485° up to 565 - 620°

Card 1/2

New Data on Polymorphism of Sodium Carbonate

APPROVED FOR RELEASE: 09/17/2001

CIA-RDP86-00513R000722020019-8

- d)  $\delta$ - $\text{Na}_2\text{CO}_3$  - the modification of the high temperature existing above 560 - 620°

The temperature range of the existence of the phase is dependent on the processing method of the sodium carbonate samples. At the phase transition from the  $\alpha$ - to the  $\beta$ -form at 340 - 350° a modification of the crystalline structure takes place. There are 3 figures, 3 tables, and 3 references, 2 of which are Slavic.

ASSOCIATION: Institute for General and Inorganic Chemistry imeni N. S. Kurnakov AN USSR  
(Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR)

PRESENTED: June 10, 1957, by I. I. Chernyayev, Academician

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AVAILABLE: Library of Congress

Card 2/2

20-119-6-32/56

AUTHOR: Khlapova, A. N.

TITLE: Phase Transformations in the Sodium Sulfate - Sodium Carbonate System (Fazovyye prevrashcheniya v sisteme sul'fat-karbonat natriya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 119, Nr 6, pp.1167-1169 (USSR)

ABSTRACT: Different from earlier papers (Refs 1 - 5) the investigation of the melting of both mentioned salts was performed simultaneously on the same samples by means of the differential-thermographical, radiographical and crystal-optical method of phase analysis. The samples were investigated 1 - 5 days after production, as well as after a 1 - 2 months storing without addition of air moisture, furthermore, after an open storing in the laboratory. Figures 1 and 2 show the results. From the phase diagram  $\text{Na}_2\text{SO}_4$  -  $\text{Na}_2\text{CO}_3$  (figure 1) is to be seen that a high-temperature solution of sodium sulfate - sodium carbonate, which crystallizes out of the salt melting, in cooling down undergoes a number of phase transitions.

Card 1/3

20-119-6-32/56

## Phase Transformations in the Sodium Sulfate - Sodium Carbonate System

In this system this process above all is dependent on the polymorphism of both salts (Refs 6 - 10). The continuous series of the  $\delta$ -solid solutions, which forms of  $\delta$ -Na<sub>2</sub>SO<sub>4</sub> and  $\delta$ -Na<sub>2</sub>CO<sub>3</sub> at about 600°C (Ref 8), transforms in the range of all concentrations into an unlimited  $\gamma$ -solid solution (Refs 6 - 10). This latter decomposes according to the composition of the alloy at different temperatures, which is shown by a complicated curve. This has 2 maxima at 400°C in the central part: a) at 66,3 mol% Na<sub>2</sub>SO<sub>4</sub>; it corresponds to the formation of a double salt in solid state: 2Na<sub>2</sub>SO<sub>4</sub>·Na<sub>2</sub>CO<sub>3</sub> (hexagonal berkeite) (Ref 11); b) at 25,0 mol% Na<sub>2</sub>SO<sub>4</sub>, it corresponds to the formation of a double salt Na<sub>2</sub>SO<sub>4</sub>·3Na<sub>2</sub>CO<sub>3</sub>. On the basis of a hexagonal berkeite (Ref 11) a phase of varying composition ( $\gamma'$ -phase) forms between these compounds, which extends at normal temperatures between about 13,0 and 75,0 mol% Na<sub>2</sub>CO<sub>3</sub>. New informations on the phase transformations of the mentioned system were obtained by the authoress' investigations. A fundamental difference in the nature of the solid phases, which form between sulfate and carbonate in melting and in aqueous solutions, was discovered.

Card 2/3

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PALKINA, K.K., inzh.

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Teploenergetika 9 no.1:40-44 Ja '62. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.  
(Boilers--Incrustations)

KHLAPOVA, A.N.; Prinimali uchastiye: KOVALEVA, Ye.S.; TAYUKIN, L.I.

X-ray diffraction data on the  $\alpha$ - $\beta$  phase transition in quartz.  
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1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova.  
(X-ray crystallography) (Quartz)

KHLAPOVA, A.N.; KOVALEVA, Ye.S.

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USSR / Forestry. Forest Management.

K

Abstr Jour : Ref Zhur - Biologiya, No 18, 1958, No. 82204

Author : Khlatin, S. A.

Inst : Not given

Title : Further Improvement of Forest Management Functions in  
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Orig Pub : Lesn. kh-vo, 1958, No 3, 30-34

Abstract : No abstract given

Card 1/1

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KHEATIN S.A.  
CHIKILEVSKIY, Nikolay Nikolayevich, prof.; TIKHOMIROV, B.N., dotsent, kand.  
sel'skokhozyaystvennykh nauk, retsenzent; SHANIN, S.S., dots. kand.  
sel'skokhozyaystvennykh nauk, retsenzent; ZAKHAROV, V.K., prof.;  
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